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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,434	01/05/2006	Hiroyuki Fujimura	2005-2079A	6271

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ART UNIT	PAPER NUMBER
3743	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,434	FUJIMURA ET AL.	
	Examiner	Art Unit	
	KENNETH B. RINEHART	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,35 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11* is/are allowed.

6)☒ Claim(s) *1-10 and 12-17, 35, and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 16, 17, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000328071 in view of Wu et al (5411714). JP2000328071 discloses a gasification furnace (2) for gasifying a combustible to produce a combustible gas; a combustion furnace (5) for combusting char and/or tar produced by gasification in said gasification furnace; and a return line (11) for returning a combustion gas discharged from said combustion furnace to said gasification furnace and said combustion furnace, oxygen (12)is added to the combustion gas to be returned to said combustion furnace, wherein steam or inert gas is supplied to said gasification furnace (paragraph 7), the combustion gas is supplied to a portion downstream of said gasification furnace (fig. 1), said gasification 25 furnace has a temperature of 350 to 950"C (paragraph 28), a gas cooling apparatus for cooling the combustible gas discharged from said gasification furnace to remove moisture from the combustible gas,. Wu et al (5411714) teaches a combustion gas adjustment unit for adjusting a volume of the combustion gas to be returned to said gasification furnace and said combustion furnace via said return line by cooling the combustion gas

discharged from said combustion furnace, a gas cooling apparatus for cooling the combustion gas discharged from said combustion furnace to remove moisture from the combustion gas, said combustion gas adjustment unit comprises a heat exchanger for cooling the combustion gas discharged from said combustion furnace (136) for the purpose of providing for greater and more varied use of the recirculated gas. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including a combustion gas adjustment unit for adjusting a volume of the combustion gas to be returned to said gasification furnace and said combustion furnace via said return line by cooling the combustion gas discharged from said combustion furnace, a gas cooling apparatus for cooling the combustion gas discharged from said combustion furnace to remove moisture from the combustion gas as taught by Wu et al for the purpose of providing for greater and more varied use of the recirculated gas. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the combustion gas to be returned to said gasification furnace has an oxygen concentration of 5 % or less, said combustion furnace has a temperature of 600 to 1000°C, since where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. As evidenced by Feitel (5142998) (col. 5, lines 10-13) heat exchange occurs via the condenser.

Claims 8, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000328071 in view of Wu et al (5411714) as applied to claim 1 above, and further in view of WO02051966 AND EP1030150A1. WO02051966 teaches a main combustion furnace, further comprising, a slagging combustion furnace for melting ash by using a portion of the combustible gas produced by gasification in said gasification furnace, a high-temperature furnace for

pyrolyzing tar in the combustible gas discharged from said gasification furnace (54, figs. 5 and 11,10) for the purpose of melting ash. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including a slagging combustion furnace for melting ash by using a portion of the combustible gas produced by gasification in said gasification furnace, a high-temperature furnace for pyrolyzing tar in the combustible gas discharged from said gasification furnace as taught by WO02051966 for the purpose of melting ash. EP1030150A1 teaches integrated (abstract) for the purpose of providing a compact design. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including integrated as taught by EP1030150A1for the purpose of providing a compact design so that less space is required. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the combustion gas to be returned to said gasification furnace has an oxygen concentration of 5 % or less, said combustion furnace has a temperature of 600 to 1000°C, since where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000328071 in view of Wu et al (5411714) as applied to claim 1 above, and further in view of WO02051966 and Fujiu (4231303). WO02051966 teaches a slagging combustion furnace for melting ash by using a portion of the combustible gas produced by gasification in said gasification furnace (54, figs. 5 and 11) for the purpose of melting ash. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including a slagging combustion furnace for melting ash by using a portion of the combustible gas produced by

gasification in said gasification furnace as taught by WO02051966 for the purpose of melting ash. WO02051966 teaches said gasification furnace comprises a fluidized-bed furnace having a bed material including at least one of …, said combustion furnace comprises a fluidized-bed furnace having a bed material including at least one ….(1,2) for the purpose of providing a smaller design. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including said gasification furnace comprises a fluidized-bed furnace having a bed material including at least one of …, said combustion furnace comprises a fluidized-bed furnace having a bed material including at least one ….as taught by WO02051966 for the purpose of providing a smaller design so that a space savings is achieved. Fujiju teaches silica sand and catalyst particles (col. 3, line 27) for the purpose of fluidizing the bed. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including silica sand and catalyst particles as taught by Fujiu for the purpose of fluidizing the bed. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000328071 in view of Wu et al (5411714) as applied to claim 1 above, and further in view of Fujinami (6283048). Fujinami teaches a water spray gas cooler for spraying water on the combustion gas discharged from said combustion furnace (30) for the purpose of cooling the slag. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including a water spray gas cooler for spraying water on the combustion gas discharged from said combustion furnace as taught by Fujinami for the purpose of cooling the slag. The applicant is merely combining prior art according to known methods to yield predictable results.

Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000328071 in view of Wu et al (5411714) as applied to claim 1 above, and further in view of Hamilton (4411204). JP2000328071 discloses a gasification furnace (2) for gasifying a combustible to produce a combustible gas; a combustion furnace (5) for combusting char and/or tar produced by gasification in said gasification furnace; and a return line (11) for returning a combustion gas discharged from said combustion furnace to said gasification furnace and said combustion furnace, oxygen (12)is added to the combustion gas to be returned to said combustion furnace, wherein steam or inert gas is supplied to said gasification furnace (paragraph 7), the combustion gas is supplied to a portion downstream of said gasification furnace (fig. 1), said gasification 25 furnace has a temperature of 350 to 950"C (paragraph 28), a … between the combustion gas discharged from said combustion furnace and the combustion gas to be returned to said gasification furnace and said combustion furnace (figs). Hamilton teaches a fluidizing gas heater for exchanging heat (20) for the purpose of exchanging heat. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including a fluidizing gas heater for exchanging heat as taught by Hamilton for the purpose of exchanging haet to heat the gas to improve thermal efficiency. The applicant is merely combining prior art according to known methods to yield predictable results.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP2000328071 in view of Wu et al (5411714) as applied to claim 1 above, and further in view of Schaub (5425317). Schaub teaches an integrated gasification furnace (fig.) for the purpose of providing a compact design that minimizes space requirements. It would have been obvious to one of ordinary skill in the art to modify JP2000328071 by including integrated gasification furnace as

taught by Schaub for the purpose of providing a compact design that minimizes space requirements.

Allowable Subject Matter

Claims 11 is allowed.

Claims 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to KENNETH B. RINEHART at telephone number (571)272-4881.

/Kenneth B Rinehart/

Supervisory Patent Examiner, Art Unit 3743